

REMARKS

This application has been revised and the following remarks are submitted in light of the Office Action mailed September 16, 2004. Claims 1 and 4-19 are presented for examination. Claim 2 has been canceled. Claim 1 has been amended to incorporate the limitations of Claim 2. Claim 14 has been amended to correct an informality. No new matter has been added.

Applicants note with appreciation the statement in the Office Action that Claims 2, 15-16 and 19 would be allowable if rewritten in independent form. Claim 1 has been amended to incorporate the limitations of allowable Claim 2, and Claim 2 has been canceled. Claims 4-19 each depend ultimately from Claim 1. Applicants therefore submit that this application is now in condition for allowance.

Objection to Claim 14

Claim 14 is objected to because of the following informality: it is suggested that "conductive material" be replaced with --conductor--.

Claim 14 has been amended in accordance with this suggestion. Applicants therefore submit that this claim objection has been overcome.

Rejection of Claims 1, 4, 8, 10, 14 and 17-18 under 35 U.S.C. § 102(e) over Wang

Claims 1, 4, 8, 10, 14 and 17-18 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Pub. No. 2002/0100907 by Wang.

Applicants respectfully traverse this rejection.

Claim 1 is directed to an interconnect structure formed on a substrate. It is a feature of amended Claim 1 that the structure comprises a first cap layer formed by a high density plasma chemical vapor deposition (HDP CVD) process, and a second cap layer formed by a plasma-enhanced chemical vapor deposition (PE CVD) process. Wang fails to disclose this feature of the invention. Indeed, it is recognized on page 4 of the Office Action that none of the cited references disclose this feature of the invention.

Accordingly, Applicants submit that Claim 1 is not anticipated by Wang. Claims 4, 8, 10, 14 and 17-18, which include all of the limitations of Claim 1, are also not anticipated by Wang. Applicants therefore request withdrawal of this rejection.

Rejection of Claim 5 under 35 U.S.C. § 103(a) over Wang

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Applicant's Prior Art (APA). Applicants respectfully traverse this rejection.

Claim 5 depends from Claim 1. It is a feature of amended Claim 1 that the interconnect structure comprises a first cap layer formed by a HDP CVD process, and a second cap layer formed by a PE CVD process. Wang fails to disclose or suggest this feature of the invention. Indeed, it is recognized on page 4 of the Office Action that none of the cited references disclose or suggest this feature of the invention.

Accordingly, Applicants submit that Claim 1 is patentable over Wang in view of APA. Claim 5, which includes all of the limitations of Claim 1, is also patentable over Wang in view of APA. Applicants therefore request withdrawal of this rejection.

Rejection of Claims 6 and 7 under 35 U.S.C. § 103(a) over Wang in view of Ngo et al.

Claims 6 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of APA and further in view of U.S. Patent No. 6,528,432 to Ngo et al. Applicants respectfully traverse this rejection.

Claims 6 and 7 depend from Claim 1. It is a feature of amended Claim 1 that the interconnect structure comprises a first cap layer formed by a HDP CVD process, and a second cap layer formed by a PE CVD process. Neither Wang nor Ngo et al. disclose or suggest this feature of the invention. Indeed, it is recognized on page 4 of the Office Action that none of the cited references disclose or suggest this feature of the invention.

Accordingly, Applicants submit that Claim 1 is patentable over Wang in view of APA and further in view of Ngo et al. Claims 6 and 7, which include all of the

limitations of Claim 1, are also patentable over Wang in view of APA and further in view of Ngo et al. Applicants therefore request withdrawal of this rejection.

Rejection of Claims 9, 11-13 under 35 U.S.C. § 103(a) over Wang in view of Ngo et al.

Claims 9 and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of U.S. Patent No. 6,593,237 to Ngo et al. Applicants respectfully traverse this rejection.

Claims 9 and 11-13 depend from Claim 1. It is a feature of amended Claim 1 that the interconnect structure comprises a first cap layer formed by a HDP CVD process, and a second cap layer formed by a PE CVD process. Neither Wang nor Ngo et al. disclose or suggest this feature of the invention. Indeed, it is recognized on page 4 of the Office Action that none of the cited references disclose or suggest this feature of the invention.

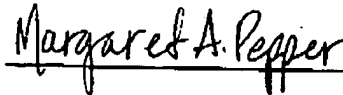
Accordingly, Applicants submit that Claim 1 is patentable over Wang in view of Ngo et al. Claims 9 and 11-13, which include all of the limitations of Claim 1, are also patentable over Wang in view of Ngo et al. Applicants therefore request withdrawal of this rejection.

Conclusion

Applicants respectfully submit that the present application is now in condition for allowance. If the Examiner has any questions or believes further discussion will aid examination and advance prosecution of the application, a telephone call to the undersigned is invited.

No fee is believed to be due for the submission of this amendment. If any fees are required, however, the Commissioner is authorized to charge such fees to Deposit Account No. 09-0458.

Respectfully Submitted,



Margaret A. Pepper
Attorney for Applicant
Reg. No. 45,008

International Business Machines Corporation
Dept. 18G, Bldg. 300-482
2070 Route 52
Hopewell Junction, NY 12533

Phone: (845) 894-4713
Fax: (845) 892-6363
e-mail: mpepper@us.ibm.com